

REMARKS

The Final Office Action, mailed January 11, 2007, considered claims 1-4, 13, 18, 19 and 21 - 39. Claims 1-4, 13, 18, 19, 21, 23-25, 27-39 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bruette (US 6,708,336 B1) in view of Chidlovskii (US 6,347,314).¹

By this amendment claims 1 and 28 have been amended.² Claims 5-12, 14-17, 20 and 39 have been cancelled. Accordingly, claims 1-4, 13, 18, 19 and 21-38 are pending, of which claims 1 and 28 are the only independent claims at issue.

The present invention is generally directed to efficiently searching the interactive broadcast data in response to a string of text input by a user in order to identify the particular interactive broadcast data desired by the user. For example, claim 1 defines receiving interactive broadcast data at the management system, said interactive broadcast data having unique binary signatures. Each unique binary signature is generated for an electronic program guide entry using programming information from a plurality information fields of the electronic program guide entry such that the unique binary signature for the electronic program guide entry matches any binary signature based on a portion of the programming information from the one or more information fields. Each of the unique binary signatures is created prior to transmission across the video transmission medium using a first function adapted to convert alphanumeric text in fields of the electronic program guide entries into unique binary signatures having a fixed number of bytes, and storing the unique binary signatures at the management system.

Next, claim 1 defines receiving a first user-entered text string including information corresponding to a first subset of the plurality of fields that were used to generate the unique binary signatures. Next, claim 1 defines using a second function to convert the first user-entered text string into a first unique binary signature that is stored at the management system. Next, claim 1 defines comparing each of the unique binary signatures in the interactive broadcast data to the first unique binary signature of the first user-entered text string. Next, claim 1 defines determining that the first unique binary signature matches at least a specified unique binary signature in the interactive programming data. Next, claim 1 defines based on the determination,

¹ Although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

² Support for the amendments to the claims are found throughout the specification and previously presented claims, including but not limited to paragraphs [0046]-[0051] and [0053]-[0055] and Figure 2.

the management system presents a complete electronic program guide entry that matches the first user-entered input text string.

Next, claim 1 defines receiving a second user-entered text string including information corresponding to a second different subset of the plurality of fields that were used to generate the unique binary signatures. Next, claim 1 defines using the second function to convert the second user-entered text string into a second unique binary signature that is stored at the management system. Next, claim 1 defines comparing the second binary signature to each of the unique binary signatures of the interactive broadcast data. Next, claim 1 defines determining that the second unique binary signature also matches at least the specified unique binary signature in the interactive programming data. Lastly, claim 1 defines based on the determination, the management system presents the complete electronic program guide entry that matched the first input text string.

Claims 28 is a computer program product claim corresponding to claim 1. Applicants respectfully submit that the cited art of record does not anticipate or otherwise render the amended claims unpatentable for at least the reason that the cited art does not disclose, suggest, or enable each and every element of these claims.

Bruette describes a method and apparatus for generating a database in memory and searching it using user commands (Title). The database is generated using information from a service provider including search criteria and information describing which channel each program can be found on (Abs.). *Bruette* allows a user to indicate that an entered sequence of numbers is to be processed in a special manner (e.g., by pressing an "alpha" key on a remote control). (Col. 5:55-50). For example, a user can input numerical values as search criteria to search textual data (e.g., call signs). (Col. 5:65-Col. 6:5). When a number is input, a conversion table designates one or more characters of text that are to match the number when performing a comparison. (Col. 5:19-45, Table 1). For example, a user can input 1, 5, 5 which corresponds to C, N, N in the table, thus selecting the channel CNN. (Col. 6:41-58, Figure 2). A user can use similar mechanisms to search other text data, such as, for example, a performer's name, a program title, etc. (Col. 6:24-40, Col. 7:54-Col. 8:18).

Chidlovskii describes a technique for determining if queried content is cached. It alleviates problems in evaluating or comparing a query against cached items. (Col 2:22-24). The cache includes data items from multiple semantic regions which can be referenced to obtain a

quick answer to a query. (Col. 2:27-39). The technique uses a binary string query identifier to locate groups of similar queries. (Col. 2:40-49). If the query signature (at least partially) matches a region signature, the system knows (at least part of) the answer to the query can be obtained from the cache and can avoid sending out an outside query. (Col. 2:50-61).

To generate query and region signatures each term in a query's or region's formula is assigned a term signature. Term signatures can be combined (e.g., using a bitwise OR) to obtain a signature for the conjunction of terms (Col. 5:61-Col. 6:10). Figure 2A depicts one possible region signature. Figure 2B depicts results of comparing various query signatures to the region signature of Figure 2A. Equivalency, query containment (answer to query is a subset of region contents), and region containment (answer to query is a superset of region contents) are occurrences of semantic containment that can indicate at least a partial match, and thus qualify as source of answers. (Col. 6:44-57). Thus, in response to query containment, the complete region contents are not identified as part of the answer.

Thus, *Bruette* nor *Chidlovskii* teach or suggest:

“receiving a second user-entered text string including information corresponding to a second different subset of the plurality of fields that were used to generate the unique binary signatures;

determining that the second unique binary signature also matches at least the specified unique binary signature in the interactive programming data; and

based on the determination, the management system presenting the complete electronic program guide entry that matched the first input text string.”

as recited in claim 1. For example, neither *Bruette* nor *Chidlovskii* allow presenting the same complete EPG entry in response to a match to multiple different input strings, such as, for example, presenting the same complete EPG entry in response to a search on time and in response to search on channel. *Chidlovskii* describes using only the matching portion of region contents in response to query containment. Thus, different search terms result in a different portion of a region being identified.

At least for either of these reasons, claim 1 patentably defines over the art of record. At least for either of these reasons, claim 28 also patentably defines over the art of record. Since each of the dependent claims depend from one of claims 1 and 28, each of the dependent claims also patentably define over the art of record for at least either of the same reasons.

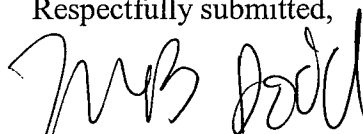
Claim 39 was rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claim 39 has been cancelled, thus rendering the 35 U.S.C. 112, first paragraph rejection of claim 39 moot.

In view of the foregoing, Applicant respectfully submits that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicant acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice. Instead, Applicant reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicant specifically requests that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at (801) 533-9800.

Dated this 12th day of March, 2007.

Respectfully submitted,



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